FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
		00-1123-H	10/058,626
STATEMENT	NFORMATION DISCLOSURE BY APPLICANT leets if necessary)		
		Applicant:	
		Cunningham, et al.	
		Filing Date:	Group:
		January 28, 2002	1645-1641

Examiner Initial	Document Number	Date	Name	Class	Subclass	Fillng Date if Appropriate
	•					

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

u	1.	Statement of Applicants dated May 4, 2004			
	2. Bertoni, et al., "Frequency-Selective Reflection and Transmission by a Periodic Dielectric Layer", IEEE Transactions on Antennas and Propagation, Vol. 37, No. 1, pp. 78-83 (1989)				
	3.	Brundrett, et al., "Normal-incidence guided-mode reso demonstration", Optics Letters, Vol. 23, No. 9, pp. 700	nant grating filters: design and experimental -702 (1998)		
u	4.	Peng, "Polarization-control Components and Narrow-L 1996	pand Filters Based on Subwavelength Grating Structures"		
EXAMINER	С.	Chi	DATE CONSIDERED 9/27/04		

Sheet 1 of 2 **FORM PTO-1449** U.S. Department of Commerce Atty. Docket No. Serial No. MAR 2 9 2004 (Rev. 2-32) Patent and Trademark Office 10/058,626 00-1123-H SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) Applicant: Cunningham, et al. Filing Date: Group: January 28, 2002 1645 1641

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
u	1.	5,801,390	9/1/98	Shiraishi	250	559.3	2/7/97
	2.	5,475,780	12/12/95	Mizrahi	385	37	6/17/93
	3.	4,958,895	9/258/90	Wells, et al.	350	96.12	6/23/89
	4.	6,052,213	4/18/00	Burt, et al.	359	237	3/24/97
	5.	5,210,404	5/11/93	Cush, et al.	250	216	5/19/92
	6.	4,857,273	8/15/89	Stewart	422	68	4/4/86
	7.	5,242,828	9/7/93	Bergström, et al.	435	291	11/9/89
	8.	5,864,641	1/26/99	Murphy, et al.	385	12	4/11/97
	9.	5,337,183	8/9/94	Rosenblatt	359	248	10/20/92
	10.	6,404,554 B1	6/11/02	Lee, et al.	359	576	5/18/00
	11.	6,377,721 B1	4/23/02	Walt, et al.	385	12	3/2/99
	12.	6,587,276 B2	7/1/03	Daniell	359	622	3/17/01
	13.	6,316,153 B1	11/13/01	Goodman, et al.	430	8	4/21/99
	14.	5,814,524	9/29/98	Walt, et al.	436	514	12/14/95
	15.	5,170,448	12/8/92	Ackley, et al.	385	31	1/6/92
1	16.	5,606,170	2/25/97	Saaski, et al.	250	458.1	2/3/95
u	17.	5,156,785	10/20/92	Zdrahala	264	108	7/10/91

MAR 2 9 2004	OTHER DOCUMENTS (Including Author, Title,	Date, Pertinent Pages, Etc).
CATA RADI DATO, TO	Lenau, Torben; Material, Silicon Nitride, 1996, 97, 98	
19.	Cerac, Technical publications: Tantalum Oxide, Ta ₂ O	for Optical Coating, 2000, Cerac, Inc.
EXAMINER (.	chi	DATE CONSIDERED

FORM PTO-1449 (R v. 2-32)	U.S. Department of Commer Patent and Trademark Offi		Seria 10/0 58,626 7 10/0 58,626 7
DISCLOSUR	UPPLEMENTAL INFORMATION RE STATEMENT BY APPLICANT several sheets if necessary)		2 1 200 NTER 160
0CT 1 4 2003 32		Applicant: Cunningham et al.	0/2900
TA TRADEMARKET		Filing Date: January 28, 2002	Group: 1645-1647

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriat
u	1.	5,492,840	02/20/96	Malmqvist et al.			

U.S. PATENT APPLICATION DOCUMENTS

Examiner Initial		Document Number	Publication Date if Appropriate	Name	Class	Subclass	Filing Date
u	2.	20030027328-A1	6 Feb 2003	Cunningham et al.	1	1	
u	3.	20020127565-A1	12 Sept 2002	Cunningham et al.			
a	4.	20030027327-A1	6 Feb 2003	Cunningham et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initial		De grument Number	Data	Countries	Olana	Cubalaaa	Tran Yes	slation No
	<u></u>	Document Number	Date	Country	Class	Subclass	165	110
u	5.	W0 02/061429	8 Aug 2002	PCT				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

EXAMINER	С.	Chi	DATE CONSIDERED	9/27/04		
u	10.	International Search Report for foreign counterpart applicat	ion PCT/US03/01175.			
ų	9.	Patterson, S.D., Current Opinions in Biotechnology, 11(4):4	13-8 (2000).			
	8.	Pandey, A. and Mann, M., Nature. 405(6788):837-46 (2000	0).			
	7.	Cunningham et al., Sensors and Actuators B 81; pp 316-328 (2002).				
u	6.	Cunningham et al., Sensors and Actuators B 85; pp 219-226 (2002).				

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Pat int and Trademark Office INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Serial No. 10/058/626.
JUL 17 2003	(Use several sheets if necessary)	Applicant: Cunningham, et al.	TH CENTER 1600/20
·	·	Filing Date:	Group:
		January 28, 2002	1645

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
u	1.	4,876,208	10/24/89	Gustafson et al.	436	531	1/30/87
	2.	4,992,385	2/12/91	Godfrey	436	525	7/22/87
	3.	5,455,178	10/3/95	Fattinger	436	164	5/28/93
	4.	5,478,527	12/26/95	Gustafson et al.	422	82	11/21/94
a	5.	5,738,825	4/14/98	Rudigier et al.	422	82	5/12/97

FOREIGN PATENT DOCUMENTS

Examin r Initial				;	÷	Trans	lation
	Document Number	Date	Country	Class	Subclass	Yes	No
	,						

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

						in:		
			ī	0		1	-	
EXAMINER	C. (Chi			 DATÉ CO	NSIDERED	oy'	

FORM PTO-1449 (Rev. 2-32)

U.S. Department of Commerce Patent and Trademark Office

ECOND SUPPLEMENTAL INFORMATION DISCLOSURE
STATEMENT BY APPLICANT
(Use several sheets if necessary)

Atty. Docket No.

Serial No.

00-1123-H

10/058,626

H#

CT 1 1 2002

Applicant:

TECH CENTER 1600/2900

Cunningham, et al.

Filing Date:

Group:

January 28, 2002

1645 -

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclas s	Filing Date if Appropriat
u	1	6,185,019 B1	2/6/01	Hobbs, et al.	359	30	5/14/99
	2	6,088,505	7/11/00	Hobbs	385	147	6/10/97
	. 3	4,536,608	8/20/85	Sheng, et al.	136	259	4/25/83
<u> </u>	4	5,229,614	7/20/93	Andersoon et al.	250	370.12	3/27/92
u	5	5,559,338	9/24/96	Elliott et al.	250	492.1	10/4/94

FOREIGN PATENT DOCUMENTS

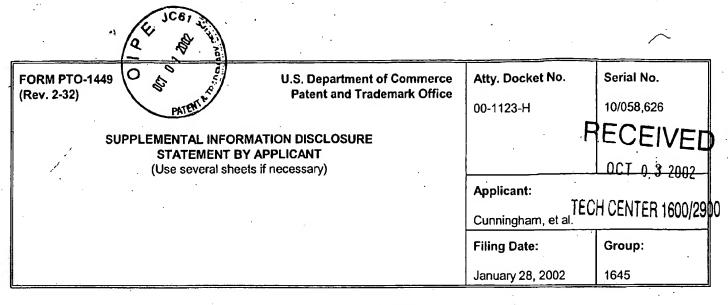
	Document Number	<u> </u>	Date	Country	Class Subclass	Translation		
						·	Yes	No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

и	6	Internationa	ernational Search Report for foreign counterpart PCT/US01/50723						
EXAMINER			Chi	DATE CONSIDERED					

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

MCDONNELL BOEHNEN HULBERT & BERGHOFF 300 SOUTH WACKER DRIVE CHICAGO, ILLINOIS 80808 TELEPHONE (312) 913-0001



Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Dat if Appropriat
и	1.	4,009,933	03/01/77 .	Firester	350	152	05/07/95
u	2.	5,598,300	01/28/97	Magnusson, et al.	359	566	06/05/95

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

a		3.	Invitation to Pay Additional Fees	in foreign counterpart application PCT/US01/50723
EXAMINE	R		C. Chri	DATE CONSIDERED 9/27/04

APR 22 2002

RECEIVED

FORM PTO 1449 (Rev. 2-32)

U.S. D partment f C mmerc Patent and Trad mark Offic Atty. D cket No. APR ena NO.02

00-1123-H. TECH CENTER 1600/2900

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

Applicant:

Cunningham, et al.

Filing Date:

Group:

January 28, 2002

1645

U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Dat if Appr priat
u	1	4,931,384	6/5/90	Layton, et al.	435	7	10/17/84
	2.	5,118,608	6/2/92	Layton, et al.	435	7.1	9/22/89
	3	5,478,756	12/26/95	Gizeli, et al.	436.	527	2/8/95
	4	5,496,701	3/5/96	Pollard-Knight	435	7.4	6/2/92
	5	5,598,267	1/28/97	Sambles, et al.	356	369	2/3/95
	6	5,690,894	11/25/97	Pinkel, et al.	422	68.1	5/23/95
	7	5,738,825	4/14/98	Rudigier et al.	422	82.11	7/18/94
	8	5,804,453	9/8/98	Chen	436	518	2/9/96
	9 👨	5,846,843	12/8/98	Simon	436	527	11/18/96
	10	5,925,878	7/20/99	Challener	250	225	8/20/97
	11	5,955,378	9/21/99	Challener	436	525	8/20/97
	12	5,986,762	11/16/99	Challener	356	375	6/15/98
	13	5,994,150	11/30/99	Challener, et al.	436	518	11/19/97
	14	6,035,089	3/7/00	Grann, et al.	385	129	6/11/97
	15	6,100,991	8/8/00	Challener	356	445	6/22/99
	16	6,146,593	11/14/00	Pinkel, et al.	422	68.1	7/24/97
	17	5,442,169	8/15/95	Kunz	250	227.21	4/22/92
	18	5,991,480	11/23/99	Kunz, et al.	385	37	8/7/96
1	19	6,320,991 B1	11/20/01	Challéner, et al.	385	12	10/16/98
u	20	RE37,473 E	12/18/01	Chall ner	250	225	2/3/00

APR 2 3 2002

<i>-</i> 1						
21	6,346,376 B1	2/12/02	Sigrist, et al.	435E	CH CENTE	R 1600/2900
J 22	US 2002/0018610 A1	2/14/02	Challener, et al.	385	12	9/28/01
23	5,691,846	11/25/97	Benson, Jr. et al.	359	530	6/7/95
24	6,076,248	6/20/00	Hoopman, et al.	29	527.1	2/26/99
25	5,175,030	12/29/92	Lu, et al.	428	30	12/8/89
26	4,668,558	5/26/87	Barber	428	156	1/6/86
27	5,771,328	6/23/98	Wortman, et al.	385	146	4/3/97
28	5,268,782	12/7/93	Wenz, et al.	359	81	1/16/92
29	4,576,850	3/18/86	Martens	428	156	7/20/78
30	5,615,052	3/25/97	Doggett	359	811	11/1/94
31	5,792,411	8/11/98	Morris, et al.	264	400	9/28/95
32	5,732,173	3/24/98	Bylander, et al.	385	49	12/12/96
33	4,999,234	3/12/91	Cowan	428	156	6/10/88
34	5,413,884	5/4/95	Koch, et al.	430	5	12/14/92
35	6,338,968 B1	1/15/02	Hefti	436	518	8/2/99
36	6,340,598 B1	1/22/02	Herron, et al.	436	518	12/8/98
	24 25 26 27 28 29 30 31 32 33 34 35	22 US 2002/0018610 A1 23 5,691,846 24 6,076,248 25 5,175,030 26 4,668,558 27 5,771,328 28 5,268,782 29 4,576,850 30 5,615,052 31 5,792,411 32 5,732,173 33 4,999,234 34 5,413,884 35 6,338,968 B1	22 US 2002/0018610 A1 2/14/02 23 5,691,846 11/25/97 24 6,076,248 6/20/00 25 5,175,030 12/29/92 26 4,668,558 5/26/87 27 5,771,328 6/23/98 28 5,268,782 12/7/93 29 4,576,850 3/18/86 30 5,615,052 3/25/97 31 5,792,411 8/11/98 32 5,732,173 3/24/98 33 4,999,234 3/12/91 34 5,413,884 5/4/95 35 6,338,968 B1 1/15/02	22 US 2002/0018610 A1 2/14/02 Challener, et al. 23 5,691,846 11/25/97 Benson, Jr. et al. 24 6,076,248 6/20/00 Hoopman, et al. 25 5,175,030 12/29/92 Lu, et al. 26 4,668,558 5/26/87 Barber 27 5,771,328 6/23/98 Wortman, et al. 28 5,268,782 12/7/93 Wenz, et al. 29 4,576,850 3/18/86 Martens 30 5,615,052 3/25/97 Doggett 31 5,792,411 8/11/98 Morris, et al. 32 5,732,173 3/24/98 Bylander, et al. 33 4,999,234 3/12/91 Cowan 34 5,413,884 5/4/95 Koch, et al. 35 6,338,968 B1 1/15/02 Hefti	22 US 2002/0018610 A1 2/14/02 Challener, et al. 385 23 5,691,846 11/25/97 Benson, Jr. et al. 359 24 6,076,248 6/20/00 Hoopman, et al. 29 25 5,175,030 12/29/92 Lu, et al. 428 26 4,668,558 5/26/87 Barber 428 27 5,771,328 6/23/98 Wortman, et al. 385 28 5,268,782 12/7/93 Wenz, et al. 359 29 4,576,850 3/18/86 Martens 428 30 5,615,052 3/25/97 Doggett 359 31 5,792,411 8/11/98 Morris, et al. 264 32 5,732,173 3/24/98 Bylander, et al. 385 33 4,999,234 3/12/91 Cowan 428 34 5,413,884 5/4/95 Koch, et al. 430 35 6,338,968 B1 1/15/02 Hefti 436	22 US 2002/0018610 A1 2/14/02 Challener, et al. 385 12 23 5,691,846 11/25/97 Benson, Jr. et al. 359 530 24 6,076,248 6/20/00 Hoopman, et al. 29 527.1 25 5,175,030 12/29/92 Lu, et al. 428 30 26 4,668,558 5/26/87 Barber 428 156 27 5,771,328 6/23/98 Wortman, et al. 385 146 28 5,268,782 12/7/93 Wenz, et al. 359 81 29 4,576,850 3/18/86 Martens 428 156 30 5,615,052 3/25/97 Doggett 359 811 31 5,792,411 8/11/98 Morris, et al. 264 400 32 5,732,173 3/24/98 Bylander, et al. 385 49 33 4,999,234 3/12/91 Cowan 428 156 34 5,413,884 5/4/95 Koch, et al. 436 518

FOREIGN PATENT DOCUMENTS

			De	ocum	ent N	umbe			Date	Country	Cla	ss	Subclass	Trans	slati n
	•													Yes	N
u	37	0	1	1	2	7	2	1	7/4/87	EPO		1	1		
\angle	38	8 .	4	0	2	5	7	8	7/5/84	PCT					
	39	9	0	0	8	3	1	8.	7/26/90	PCT					-
	40	2	2	2	7	0	8	9	7/18/90	GB					
	41	0	5	1	7	7	7	7	12/16/92	EPO					
\prod	42	9	1	1	3 .	3	3	9	9/5/91	PCT					
	43	9	2	2	1	7	6	8	12/10/92	PCT					
	44	9	3	1	4	3	9	2	7/22/93	PCT			1		_
	45	0	6	6	0	9	2	4	7/5/95	EPO					
	46	9	5	0	3	5	3	8	2/2/95	PCT					
	47	9	8	5	7	2	0	0	12/17/98	PCT	-4				li T
a	48	9	9	0	9	3	9	2	2/25/99	PCT					

PEV	2	•	RECEIVED						
(O) 1000	ار کر ایل		APR 2 3 2002						
188 27 CC	也有意	Lin, et al., "A Porous Silicon-Based Optical Interfero (1997)	metric Biosensor", Vol. 278, Science, pp. 840-843 ECH CENTER 1600/2900						
CATENT & TURE	712	Morhard, et al., "Immobilization of Antibodies in Mi Sensors and Actuators B 70, pp. 232-242 (2000)	cropatterns for Cell Detection by Optical Diffraction',						
	73	Jenison, et al., "Interference-Based Detection of Nu Nature Biotechnology, pp. 62-64 (2001)	cleic Acid Targets on Optically Coated Silicon", Vol. 19,						
	74	Cunningham, et al., U.S. Provisional Patent Applica 60/244,312 filed October 30, 2000	tion, "Resonant Reflection Microarray", Serial No.						
	75 -∳	Cunningham, et al., U.S. Provisional Patent Applica 60/283,314 filed April 12, 2001	Cunningham, et al., U.S. Provisional Patent Application, "Resonant Reflection Microarray", Serial No. 60/283,314 filed April 12, 2001						
•	76 pi	Cunningham, et al., U.S. Provisional Patent Applica 60,303,028 filed July 3, 2001	tion, "Resonant Reflection Microarray", Serial No.						
	77 5	Hobbs, et al., "Automated Interference Lithography Patterns", SPIE, Vol. 3879, pp. 124-135, September	Systems for Generation of Sub-Micron Feature Size or 1999						
1.	78 ×	Cunningham, "Introduction to Bioanalytical Sensors	", Techniques in Analytical Chemistry, pp. 260-291						
	79	Challener, et al., "A Multiplayer Grating-Based Evan	escent Wave Sensing Technique", Elsevier Science B.B.,						
u u	.80 >	Huber, et al., "Direct Optical Immunosensing (Sensi 122-126 (1992)	tivity and Selectivity)", Sensors and Actuators B, 6, pp.						
EXAMINER	C,	Chi.	DATE CONSIDERED 9/27/04						

u	49	9	9	0	9	3	9	6	2/25/99	PCT	1	RECEIVE	
u	50	9	9	6	6	3	3	0	12/23/99	PCT		APPLO	
a	51	0	0	2	3	7	9	3	4/27/00	РСТ		TECH CENTER	
4	52	0	1	0	4	6	9	7	1/18/01	РСТ		TEN ER 1600/2900	
	P	E											

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

Cowan, "The Recording and Large Scale Replication of Crossed Holographic Grating Arrays using Multiple Beam Interferometry", SPIE, Vol. 503, Application, Theory, and Fabrication of Periodic Structures, pp. 120-129 (1984) 54 Cowan, "Holographic honeycomb microlens", Vol. 24, No. 5, Optical Engineering, pp. 796-802 (1985) 55 Cowan, et al., "The Recording and Replication of Holographic Micropatterns for the Ordering of Photographic Emulsion Grains in Film Systems", Vol. 31, NO.3, J. Imaging Sci., pp. 100-107 (1987) 56 Wang, et al., "Guided-mode Resonances in Planar Dielectric-Layer Diffraction Gratings", Vol. 7, No. 8, J. Opt. Soc. Am., pp. 1470-1474 (1990) 57 Cowan, "Aztec Surface-Relief Volume Diffractive Strucutre", Vol. 7, No. 8, J. Opt. Soc. Am., pp. 1529-1544 (1990) 58 Patel, et al., "Multiwavelength Tunable Liquid-Crystal Etalon Filter", Vol. 3, No. 7, IEEE Photonics Technology Letters, pp. 643 + -644 (1991) 59 Patel, et al., "Electrically Tunable and Polarization Insensitive Fabry-Perot etalon with a Liquid-Crystal Film", Vol. 58, No. 22, American Institute of Physics, pp. 2491-2493 (1991) 60 Magnusson, et al., "Direct Optical Immunosensing (Sensitivity and Selectivity)", Sensor and Actuators B, 6, pp. 122-126 (1992) 61 Wang, et al., "Theory and Applications of Guided-Mode Resonance Filters", Vol. 32, No. 14, Applied Optics, pp. 2606-2613 (1993) 62 Wang, et al., "Design of Waveguide-Grating Filters with Symmetrical Line Shapes and Low Sidebands", Vol. 19, No. 12, Optical Society of America, pp. 919-921 (1994) 63 Jin, et al., "A Biosensor Concept Based on Imaging Ellipsometry for Visualization of Biomolecular Interactions", 232, Analytical Biochemistry, p. 69-72 (1995) 64 Brecht, et al., "Optical Probes and Transducers", Vol. 10, Biosensors & Bioelectronics, pp. 923-936 (1995) Magnusson, et al., "Transmission Bandpass Guided-Mode Resonance Filters", Vol. 34, No. 35, Applied Optics, pp. 8106-8109 (1995) 66 Peng, et al., "Experiemental Demonstration of Resonant Anomalies in Diffraction from Two-Dimensional Gratings", Vol. 21, No. 8, Optics Letters, pp. 549-551 (1996) 67 Sigal, et al., "A Self-Assembled Monolayer for the Binding and Study of Histidine-Tagged Proteins by Surface Plasmon Resonance", Vol. 68, No. 3, Analytical Chemistry, pp. 490-497 (1996) 68 Peng, et al., "Resonant Scattering from Two-Dimensional Gratings", Vol. 13, No. 5, J. Opt. Soc. Am. A., pp. 993-1005 (1996) Jordan, et al., "Surface Plasmon Resonance Imaging Measurements of Electrostatic Biopolymer Adsorption 69 onto Chemically Modified Gold Surfaces", Vol. 69, No. 7, Analytical Chemistry, pp. 1449-1456 (1997) 70 Raguin, et al., "Structured Surfaces Mimic Coating Performance", Laser Focus World, pp. 113-117 (1997)

C. Cl. 9/27/04